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# LAND CLEARING FIRES AND OUR TIMBER SUPPLY



PREVENT FOREST FIRES  
IT PAYS

ISSUED BY THE DISTRICT FORESTER,  
U. S. DEPARTMENT OF AGRICULTURE—FOREST SERVICE,  
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## THERE IS NO CONFLICT BETWEEN CONSERVATION AND AGRICULTURE

It is a recognized fact that agricultural lands supporting stumps and brush should be cleared and devoted to farm crops as rapidly as possible. This statement also applies to good farm land supporting green timber, although in many instances it will be more profitable not to slash down the timber until the rest of the farm has been cleared. Within the probable clearing period of perhaps 40 years for most land, much timber now considered valueless will become merchantable for ties, posts, poles, firewood, pulp wood, logs, lagging, converter poles, and other marketable wood products. During this period the value of the stumpage will, no doubt, increase considerably. Advanced timber growth on agricultural lands has a potential value sufficient to raise a question regarding the advisability of slashing it down, particularly if clearing will not take place for several decades.

Eight million acres of stump and brush-ridden agricultural lands are now lying idle in the Northwest. They are capable of yielding farm crops sufficient to sustain several thousand comfortable homes, and the occupants will, in time, enjoy the advantages of good schools, churches, and roads. The farm crops which these lands are capable of producing are essential to the consuming public. The population of the United States has been doubling every 40 years, and the demand for farm products is constantly increasing. The wonderful progress made by the American people is largely due to their ability to hew out homes in the forests, and there to produce foodstuffs for home and country. Timber-covered agricultural lands will be put to the highest use only when cleared and placed under the plow.

**CLEAR LAND AND PUT  
IT TO ITS HIGHEST USE**

The land-clearing problem is already of vital importance to large numbers of settlers residing in the mountain regions. Each farmer wishes to produce crops as quickly as possible on all land controlled by him. As he starts out to accomplish this end it is most natural for him to concentrate his efforts on clearing land. The earning capacity of his uncleared land is usually less than the taxes levied upon it. Except for the wood lot, usually reserved by the far-sighted farmer, he regards the timber as a liability rather than an asset. **Only fire will remove this liability.** The farmer can legitimately remove stumps and brush by burning, provided he has due regard for his neighbor's property and the surrounding timber resources.

The problem of conserving the timber resources located in the vicinity of agricultural areas is also of vital importance to the settler and to the people as a whole. **THE NEED FOR TIMBER CONSERVATION ANOTHER PROBLEM** Wood in one form or another has always been used and will continue to be used for all time. The forests of France played a most important part in the winning of the recent war in Europe. In time of war it is quite impossible to stimulate the production of steel, cement, or other wood substitutes sufficiently to supply the demand. Moreover, the transportation problem is simplified if the construction material can be obtained close to the scene of action. The forests of France supplied millions upon millions of feet of timber to the Allied armies. Vast quantities of railroad ties, posts, poles, piling, lumber, firewood, and bridge timbers were manufactured by the forestry regiments. Without wood it would have been slow work to build and repair bridges, to construct cantonments, railroads, ships, shipyards, docks, and breastwork protection for the soldiers. Coal was scarce indeed. Steel could be obtained only at the sacrifice of very essential permanent construction. Cement took up space in ship bottoms that was badly needed for food, ammunition,



and clothing. Wood came to the rescue and greatly reduced importations of building materials. The forests of France delivered the goods, and the French people profited because of the far-sighted conservation policy adopted 250 years ago.



### **BEFORE THE FIRE**

#### **Mixed Stand, Kaniksu National Forest**

This timber averages 30,000 feet b. m. per acre. At least \$10 will be expended in the region for each thousand feet logged and manufactured into lumber. A pay roll like that means a good market for farm products.

It is true that such materials as steel, other metals, cement, brick, and stone are being used more and more as substitutes for wood; yet the

#### **WOOD AND WOOD SUBSTITUTES**

American people continue to use about as much wood each succeeding year. While the per capita consumption is being reduced, the total consumption has remained about stationary since 1909. It is difficult to conceive of substitutes for wood pulp, ties, mining timbers, poles for temporary and quick construction, boxes, crating, and many other materials. A large percentage of homes is still built of wood. If temporary and quick construction is needed, wood is the most practical material to use. If concrete is used, wood is required for the purpose of building the forms.

The argument is often advanced that the future fuel supply is not a serious problem, because of the abundance of coal; yet at this time the

#### **WOOD AND COAL**

French people are suffering for want of fuel wood. The peasants go into the woods of France, bundle up small limbs and twigs, and pack this fuel material to their homes. Coal is available, but there are thousands of homes into which it does not find its way. Thus far timber has been plentiful in our Northwest. An abundance of fencing material, firewood, house logs, and saw timber has always been available. It is difficult for some people to appreciate why they should preserve that which has been a hindrance to production on agricultural land. The careful thinker, however, admits that the time is not far off when the American people will need forests in the same way the French people now need them. In the time of railroad tie-ups and coal miners' strikes we must have fuel wood. The fuel wood must be preserved for the poor and needy. They will not always be able to obtain coal all of the time. While we now have vast deposits of coal there must be a limit to this source of fuel.



Every thousand feet of green timber near one's home is worth at least \$10 in wages to him or his neighbor, besides its stumpage value to the owner. If it is on National Forest land, the settler is part owner; and if it is destroyed by fire, he loses both values. Burned timber pays no wages. Whether or not the farmer constructs his building from wood, the price of his building material is governed largely by the quantity of lumber available. Markets for farm products are, of course, directly dependent on the demand, and the demand is largely determined by the size and prosperity of the population. No market is so satisfactory as the home market. Sustained lumbering in the Northwest means sustained markets for those people who are now striving to make a living on stump farms. To an unusual degree forest wealth is community wealth, since 80 per cent of the value of the tree after it is manufactured is put into general circulation. Through the purchase of labor and supplies much of this remains within the region. Privately owned timber lands pay a large proportion of the taxes in the States of Montana, Idaho, and Washington. To this must be added 25 per cent of the gross earnings of the National Forests for the support of the schools and the building of roads. The farmer is vitally interested in both.

The farmer must also have transportation for his products and is, therefore, interested in the construction and maintenance of railroads. The tonnage furnished by the average acre of forest land is probably not much less than that furnished by the average acre of farm land. The comparison is all the more significant if it is remembered that by forest land is meant land unsuited for agriculture. Increased tonnage of any article of commerce means reduced freight rates. The profits from transporting the wood products of the Northwest help to maintain the railroads, and this is a distinct advantage to the farmer.

The revenue from the manufacture of timber, directly or indirectly, benefits every channel of trade, every industry, and every individual **IS THE FARMER INTERESTED IN THE PERPETUATION OF FORESTRY?** in the Northwest. Therefore, it is obvious that the destruction of timber by fire entails a loss to

every man, woman, and child residing in this region. Furthermore, the great timber resource, unlike many other natural sources of wealth, need not be exhausted through use, but can be made to perpetuate itself for man's benefit. The prosperity and development of the Northwest is largely dependent upon a continuous supply of timber. **The settler now fighting his way on the brush-covered farm must know that the best interest of all demands that the destruction of forest material through the use of fire must not extend beyond the limits of his clearing. He should realize that the surrounding forests represent a vast potential resource absolutely essential to him and his children.**

We have, therefore, in the Northwest two very serious problems. The settlers residing in the timbered

**TWO PROBLEMS—  
AGRICULTURE AND  
CONSERVATION** regions are lacking cleared lands on which to produce farm crops, and valuable timber resources in the immediate vicinity of their

ranches are in danger of destruction from fire. These are serious problems with all local people. Their solution is constantly before the settler and the forester. Each is wrapped up in a work which in the final analysis is closely related to the well-being of the other. **There really is no conflict between conservation and agriculture. Both problems can be solved to the satisfaction of all.** The conservationist must fully appreciate that land must be cleared. He must adopt a liberal fire-permit policy. The settler needs only to be willing to inconvenience himself a little by taking precautionary steps to protect his neighbor's and the people's forest property. **The two problems can and will be correlated and worked out to the satisfaction of all.**

Only those who have suffered from forest fires or those who have fought and studied them during a great conflagration can realize the destruction that results. **FIRE TRAVELS** Fire in the parched forest under favorable weather conditions is an untamed element which forces its own draft and expands into proportions which are sufficient to wipe out bridges, farm buildings, towns, and vast forests. Many such fires are on record.



### **DEVASTATION**

**Upper St. Regis River, Lolo National Forest**

Would you care to live near this blackened, barren, nonproductive and unsightly area? No timber, no fuel, no game—**NOTHING** left to supply the present and future needs of your country. It represents nothing but a burden to the people.



On August 15, 1910, it is estimated that 40 fires were burning on the Coeur d'Alene, Cabinet, and St. Joe

**WHAT HAS HAPPENED** Forests in Northern Idaho and Western Montana. Each created its own draft and added its bit to the ever-increasing air currents. Heavy winds developed, largely because of the drafts created by these fires. The climax was reached on August 20, when the fires began to travel faster, creating stronger air currents, until an unprecedented hurricane resulted. Many fires merged into one. Some leaped over wide streams and from mountain top to mountain top, laying everything waste before them. Eight hundred and seventy-three thousand acres within the National Forests were burned over. Merchantable timber valued at \$9,785,000 was destroyed. The town of Wallace, Idaho, was partly destroyed. Sixty-four human lives were lost. Several mining, logging, and construction camps were destroyed. The homes of 35 settlers were burned down. Houses, barns, and haystacks—all were reduced to ashes. Horses, cattle, pigs, and chickens were killed. Most of the wild game was driven from the country. To this day very little game has returned to this area of black snags and brush. At least \$97,850,000 would eventually have been spent in this region to log and manufacture this timber. This item would have contributed materially to the prosperity of the people residing in the four counties in which the damage occurred. The destruction was appalling and serves as an example of what can happen. The responsibility for these fires rests upon careless people.

A forest fire that was started on the Missoula Forest in August, 1919, by a rancher who was burning brush is a good example of the destruction which often results from this cause. The rancher responsible for the fire had given his timber to a number of wood choppers, on condition that they should clear the land of all timber and pile the brush and other débris resulting from the cutting. A large percentage of the timber was cut during the spring of 1919, at which time the



wood was corded and the brush piled. For the clearing of land the conditions during August were exceedingly favorable; but the fire was started during the most critical period of the fire season, when the danger of destruction of forests and ranch property was most serious. The proper precautions were not taken. The fire started in heavy slashings where a quantity of dry wood was corded. It was accompanied by a heavy wind and resulted in burning over an area of 14,000 acres in eight hours. Much private property was destroyed, including buildings, fences, and hay on three small ranches, together with pastures for the stock. The estimated value of ranch property destroyed was \$10,000; merchantable timber and reproduction of young trees valued at \$20,000 was destroyed; it cost the Government \$20,400 to combat the fire; and the total loss was \$50,400. This is a good example of what may happen if precautions are not taken to prevent a fire from spreading beyond the limits of the area to be burned. The act was entirely a selfish one on the part of the person starting the fire, who disregarded entirely the possibility of damage to adjoining property.

It behooves everyone to be careful with fire. This responsibility rests squarely on the shoulders of a small percentage of the settlers engaged in clearing land. Eight  
**SUCCESS OR FAILURE, WHICH?** per cent of all the fires that occurred in the forested regions of Idaho and Montana between 1908 and 1922 were the result of brush-burning on agricultural land. Hundreds of pioneers of the Northwest have safely burned brush for many years. They have never been known to permit a fire to pass beyond control. Others permit fires to get away, and they clear no more land than do the careful men. The successful man knows what fire will do. He takes precautions. The unsuccessful man usually does not realize how easily a smoldering ember can be fanned into a raging forest fire. A moment of forgetfulness may cost thousands of dollars and leave hundreds of acres of dreary charred monuments to his carelessness.

Good judgment and the will to be careful is the secret of success in brush burning. Can you boast that you never let your fire pass beyond control? If not, the following rules will help you to burn your brush successfully.

## PRECAUTIONS.

1. **If at all feasible, burn brush in piles or windrows.** Advantages: You don't burn the life out of the soil. Organic matter remains to decay and build up the soil. You leave the humus, material which you will later have to return to the soil if the ground is now burned hard. There is less danger of fires passing beyond control. You don't have to pile dirty, charred logs for later burning; once burned, all burned.

2. **Burn late in the day when there is little probability of a heavy wind coming up.** In the cool of the evening you will have a better chance to prevent a fire from running.

3. **If a slashing is to be burned, provide a fire break.** A fire break may be provided by piling and burning the brush early in the season on a strip a few rods wide around the slashing.

Be sure all fires used in clearing the strip or fire break are out, in order that the slashing may not be burned accidentally at the wrong time.

Cut down all standing snags and stubs before burning.

Just before burning the slashing expose the mineral soil on a strip 2 to 4 feet wide just outside of the burned fire line. This may be accomplished through the use of a plow or mattock.

Take special precautions on the side next to dense brush and timber or next to steep slopes.

Start the fires in the center of the slashing or on the side toward which the breeze is blowing. A fire in the center of a slashing has to burn against the heavy draft created by it.

Have plenty of tools on the ground.

Secure sufficient help to cope with any emergency.

4. Burn slashing well in advance of the fire season. If this is impossible, wait until the nights are cool and damp. Eliminate all chances of a prolonged fire season.

5. Patrol the fire during the afternoons of the second and subsequent days. Don't leave the burned area until all smoldering fires have been put out. Ninety per cent of the fires which get away originate from smoldering fires which were considered safe.

6. **Know and observe the laws of your State.** Land can be cleared under them with little inconvenience to the settler, but heavy penalties are provided for the punishment of those who violate the laws. It is the duty of Forest officers and fire wardens to enforce the fire laws.

## **REMEMBER!**

**YOUR FARM** Will be more valuable when cleared if the adjoining timber crop can be kept green and eventually harvested with a return to the community of \$5 to \$10 per thousand.

## **BRIEF OF FIRE LAWS APPLICABLE TO LAND CLEARING.**

### **IDAHO.**

1. Fire wardens are appointed by the State Board of Land Commissioners for each fire district, upon the application of any owner or owners of land or other property within the State.

2. The period from June 1 to October 1 is known as the closed season, during which time it is unlawful for anyone to set out or cause to be set out fires in slashings, down or fallen timber, or on timber lands, or in the vicinity of grain fields, for the purpose of clearing land of brush, grass, or other inflammable material without first obtaining a permit in writing or print from the fire warden of the district. At no time shall any fire be set out when the wind is blowing to such an extent as to cause danger of the same getting beyond the control of the person setting out such fire, or without sufficient help present to control the same; and the same shall

be watched by the person setting the fire until the same is out. The penalty for violation of this law is a fine of not less than \$100 nor more than \$300, or imprisonment in the county jail for not less than one month nor more than six months.

Fire wardens may revoke permits or postpone their issuance during periods of drought or of windy weather when the danger of the fires spreading to other local property is great.

## MONTANA.

1. Permits to burn slashings between June 1 and September 30 must be secured from a fire warden or a Forest ranger.

2. Obtaining a permit is not required of any actual settler engaged in clearing his land for agricultural purposes if the slash is piled up and there is a cleared space 30 feet around each pile. If fires so set spread and damage or destroy property of any kind not owned by the settler, he is liable for all damages caused thereby. The rancher, upon whose land a dangerous fire occurs, is liable for all costs incurred by the State of Montana or any forestry association or any person in extinguishing or preventing the spread of such fire.

3. Permits to burn forest material, whether it is piled or not, are required of all persons between June 1 and September 30, inclusive, if land clearing by an actual settler for agricultural purposes is not the objective.

4. The State Forester and his subordinate officers are fire wardens, and duly appointed officers of the United States Forest Service, the Northern Montana Forestry Association, and the United States Indian Service are ex officio fire wardens having authority to enforce and carry out the provisions of the fire law. Private citizens may be appointed by the State Forester as fire wardens. Fire wardens or rangers have power to revoke permits to burn slashings or may refuse to issue them during periods of dry or windy weather when the danger of fires spreading to adjoining property is probable.

5. The penalty is a fine, imposed upon conviction, of not less than \$25 nor more than \$500, or imprisonment for not less than 10 days nor more than 90 days, or both such fine and imprisonment.



## WASHINGTON.

1. No one shall burn any forest material within any county in this State in which there is a warden or ranger, during the months from June to September, inclusive, in each year, which period is hereby designated as the closed season, without first obtaining permission in writing from the Forester, or a warden, or a ranger, and afterwards complying with the terms of said permit; and anyone violating any provisions contained in the preceding portions of this section shall, upon conviction thereof, be fined not less than twenty-five dollars (\$25) nor more than five hundred dollars (\$500), or be imprisoned in the county jail not exceeding thirty (30) days. Such permission for burning forest material shall be given only upon compliance with such rules and regulations as the board shall prescribe, which shall be only such as the board deems necessary for the protection of life or property.

2. The Forester or any of his assistants, any warden or ranger, may at his discretion refuse, revoke, or postpone the use of permits to burn forest material when such act is clearly necessary for the safety of adjacent property.

3. No one shall burn forest material until all dry snags, stubs, and dead trees over twenty-five (25) feet in height, within the area to be burned, shall have been cut down, and until such other work shall have been done in and around the slashing or chopping, to prevent the spread of fire therefrom, as shall be required to be done by the Forester or any warden or ranger.

4. When any person shall have obtained permission from the Forester, or warden, or ranger, to burn any slashings made for the purpose of clearing land, the warden may, at his discretion, furnish him with a man to supervise and control the burning, who shall represent and act for such warden, and shall have all the power and authority of a warden while engaged in such service, including the right to revoke such permit if

in his opinion the burning authorized would endanger any valuable timber or other property. Such man shall serve only until such time as the party burning the slashing may himself be able to keep the fire under control.

5. Any person who shall, upon any land in this State, set and leave any fire that shall spread, or damage, or destroy property of any kind not his own, shall, upon conviction, be punished by a fine of not less than ten dollars (\$10) nor more than five hundred dollars (\$500). If such fire be set or left maliciously, whether on his own or another's land, within intent to destroy property not his own, he shall be punished by a fine of not less than one hundred dollars (\$100) nor more than one thousand dollars (\$1,000), or by imprisonment, and shall be liable for all damages in a civil suit.

|         |   |                     |  |
|---------|---|---------------------|--|
| YOU MR. | { | <b>Home Builder</b> | Are engaged in a great work. Clear more land for home and country. |
|         |   | <b>Settler</b>      |  |
|         |   | <b>Farmer</b>       |  |

THE FOREST SERVICE IS WITH YOU. WILL YOU IN TURN DO YOUR BIT TO PERPETUATE THE FOREST? HELP TO PREVENT FIRE AND PROTECT AN INDUSTRY THAT IS SECOND ONLY TO AGRICULTURE.

"A people without children would face a hopeless future; a country without trees is almost as helpless; forests which are so used that they can not renew themselves will soon vanish and with them all their benefits. A true forest is not merely a storehouse full of wood, but, as it were, a factory of wood, and at the same time a reservoir of water. When you help to preserve our forests or plant new ones you are acting the part of good citizens."—

*THEODORE ROOSEVELT.*